

# 11 • PROJECT PRIORITIZATION

## REGIONAL LEVEL

Stakeholders have identified many important projects to address pressing local objectives, such as providing for a reliable potable and reclaimed water supply, flood control, canyon stabilization, sediment control, toxic pollutant control, upland habitat restoration, estuarine rehabilitation, and ASBS protection. Furthermore, local agencies define priority projects based on local objectives. Given the importance of each of these projects, differing local priorities, and budgetary constraints that do not allow us to roll out all these projects at the same time, any proposed project ranking system needs to recognize projects that work hardest toward making progress toward the Vision by:

1. addressing state watershed issues and strategies,
2. advancing Regional Performance Objectives,
3. fulfilling local objectives, and
4. integrating projects to more efficiently and effectively implement the Region's Vision.

It is recognized that state requirements for watershed planning, Regional Performance Objectives and defining potential integration mechanisms are in a state of active development, and therefore, the sophistication of the scoring system should not outstrip the confidence we have in the underlying parameters — i.e., our scoring system should be as simple as possible.

### *11.1 Comments on the First Proposed Formula for Project Scoring*

(See Appendix K: Previous Draft 1 Prioritization)

In the first draft of the plan, a project scoring formula was proposed as follows:

$$\text{SCORE} = (A + I + P) \times S$$

Where:

- A** is the sum of the issues coefficients,
- I** is the sum of the integration coefficients,
- P** is the sum of the project readiness coefficients, and
- S** is the project size.

In addition to scoring each project, projects are grouped in three management strategy types (formerly termed “tiers”): planning and education related projects, low impact projects and treatment/repair projects. Each grant proposal would include projects from each management strategy type.

On April 14, 2008, a stakeholder focus group met and critiqued this methodology. Several important suggestions were made by individuals including:

- The issues (coefficient A in the scoring formula) should be directly tied to State planning and project strategies. Projects that accomplish regulatory goals and strengthen the regulatory process should be rewarded.
- The importance of implementing a project should not necessarily be related to its project readiness (based on the preparation of preliminary and final construction documents, permits and CEQA documents).
- The importance of a project should not necessarily be related to its size. The example given was that a small and well-conceived project should not necessarily be trumped by a passive, mundane large watershed program.
- Additional types of integration should be defined, including those that explicitly consider the water resource management goals of economic development and stakeholder collaboration.
- Projects that improve the health of the habitat should be rewarded.
- The idea of project “tiers” met with several objections. One comment was that the top prioritized projects should receive first cut for all grant funding. Another comment was that the word “tier” should be changed to something else, such as “category”

or “type”. Another comment was that each project type should receive some minimum level of funding but that the level should not be determined ahead of time.

## 11.2 New Proposed Scoring System

The flowchart in Figure 11.1 shows how the following items intersect within the new proposed scoring system:

- State watershed issues,
- Regional Performance Objectives,
- Local objectives,
- Multi-benefit projects and
- Project Integration

State watershed issues, our watershed goals and the Regional Performance Objectives are linked:

- Table 2.1 in Chapter 2 shows the linkages between the three watershed goals and the project types enumerated in the Proposition 84 guidelines.
- The Regional Performance Objectives flow directly from the three watershed goals.

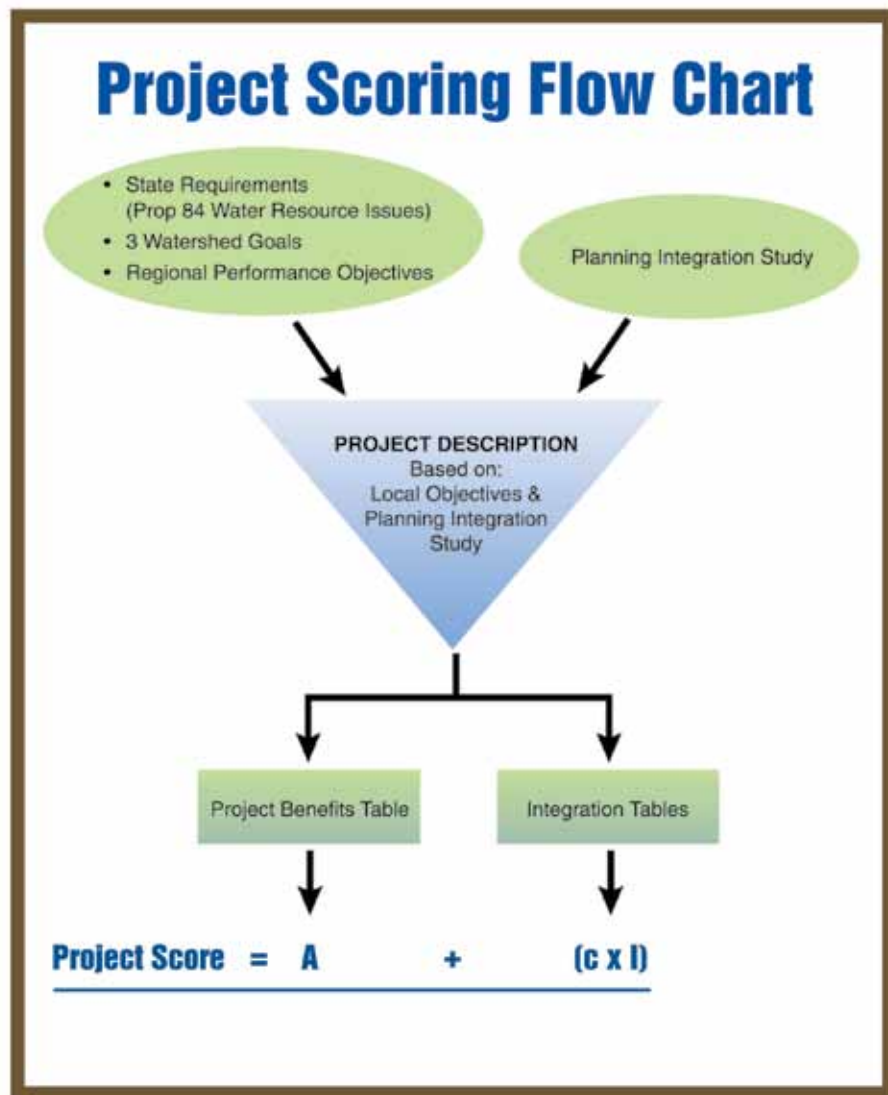


Figure 11.1 Parameters of the New Scoring System

Local objectives are explicitly embodied in the design of proposed projects. Project proponents seeking potential grant funding complete a Project Information Form that provides a full description and a work plan for the project.

This Plan proposes a method where a local project is awarded points based on the project's ability to fulfill Regional Performance Objectives, which are linked to state watershed issues (see Section 11.3, Project Benefit Factors). In the Project Information Form, the project proponent discusses how Regional Performance Objectives (and therefore, the watershed goals and state watershed issues) are addressed and advanced with the implementation of the local project. A well thought-out project will be able to substantially address several watershed issues, and as such, provides multiple benefits. This scoring system rewards this type of multi-benefit planning.

Complementing the idea of multiple benefits is the idea of integration. Chapter 4 identifies eleven types of integration that can occur at the project level and identifies different levels of integration planning that can occur during concept development of a project. The scoring system rewards projects that incorporate integration ideas into the design (See Sections 11.4 and 11.5).

The proposed new scoring formula is:

$$\text{PROJECT SCORE} = A + (C \times I)$$

Where:

**A** is the sum of the Project Benefit factors (Section 11.3),

**I** is the sum of the Integration factors (Section 11.4), and

**C** is the Integration Planning coefficient (Section 11.5).

These factors and the coefficient are discussed in the noted sections. Note that the project readiness coefficient (P) and size coefficient (S) are not used in this second formula.

In addition to scoring each project, projects are grouped into three management strategy types: planning and education related projects, low impact projects and treatment/repair projects. This is discussed in Section 11.5.

### 11.3 Project Benefit Factor (A)

Proposition 84 guidelines identify eleven water resource project types as a framework for addressing issues within a water resource management plan. These Proposition 84 project elements (listed in California Public Resources Code Section 75026) are:

1. Water supply reliability, water conservation and water use efficiency
2. Stormwater capture, storage, clean-up, treatment, and management
3. Removal of invasive non-native species, the creation and enhancement of wetlands, and the acquisition, protection, and restoration of open space and watershed lands
4. Non-point source pollution reduction, management and monitoring
5. Groundwater recharge and management projects
6. Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users
7. Water banking, exchange, reclamation and improvement of water quality
8. Planning and implementation of multipurpose flood management programs
9. Watershed protection and management
10. Drinking water treatment and distribution
11. Ecosystem and fisheries restoration and protection

In Table 11.1 the state-recognized watershed issues have been subdivided so that the different elements can be assigned a Project Benefit Factor (A). Higher factors are assigned to issues that address

The preliminary assignment for the Project Benefit factors are:

Table 11.1 Project Benefit Factors			
Prop 84 Project Type	Project Benefit No.	Prop 84 Project Types	Project Benefit Factors (A)
1	A1	Water Supply Reliability, Conservation and Use Efficiency	50
2	A2	Storm Water Capture, Storage, Cleanup, Treatment and Management	50
3a	A3a	Removal of invasive non-native species	10
3b	A3b	Creation and enhancement of wetlands	25
3c	A3c	Acquisition of Open Space and Watershed Lands for Habitat Connectivity	100
3d	A3d	Restoration of Open Space and Watershed Lands or Expanded Habitat Reserve	30
4a	A4a	Non-point source pollution reduction, management and monitoring watershed-scale projects. Add 50% for projects addressing toxic compounds, pesticides or sediment.	100
4b	A4b	Non-point source pollution reduction, management and monitoring subwatershed scale projects. Add 50% for projects addressing toxic compounds, pesticides or sediment.	50
4c	A4c	Non-point source pollution reduction, management and monitoring (Small scale projects). Add 50% for projects addressing toxic compounds, pesticides or sediment.	10
5	A5	Groundwater recharge and management projects	100
6	A6	Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users	100
7	A7	Water Banking, Exchange, Reclamation and Improvement of Water Quality	50
8	A8	Planning and implementation of multipurpose flood management programs	100
9a	A9a	Watershed Protection and Management ( Fire)	50
9b	A9b	Watershed Protection and Management (Public Access)	10
9c	A9c	Watershed Protection and Management (Education)	10
9d	A9d	Watershed Protection and Management (Land Use Planning)	10
9e	A9e	Watershed Protection and Management (Economic Planning)	25
10	A10	Drinking Water Treatment and Distribution	100
11a	A11a	Ecosystem Restoration (Canyon Stabilization)	100
11b	A11b	Ecosystem Protection – Habitat Protection	10

baseline conditions (see Chapter 10) and lower factors to issues that, while important, do not address as directly the most pressing issues in the watershed.

As a first step toward determining a score for a project, the project will be assigned points for each water resource issue addressed by the project. While in general, a particular project will have one predominant benefit, other benefits can be realized in concert with the primary project, i.e., projects can be designed to have multiple benefits. For instance, a canyon stabilization project (A11a=100) can be designed to have a meaningful wetland restoration component (A3b=25) and also provide community access via controlled hiking trails and lookouts (A9b=10), for a total of:

$$A = A11A + A3B + A9B = 135.$$

The project scoring form performs the summation automatically.

Note that higher factors are associated with project types that favor “baseline” projects that are central toward re-establishing a healthy and stable hydrology. Lower coefficients are associated with project benefits that support healthy functioning of the watershed and promote efficient use of our water resources.

## 11.4 Integration Type Factor (I)

As discussed in Chapter 4, finding ways to integrate a project into the Desired State for the watershed is a central tenet of the IRCWMP. This proposed metric awards those projects that incorporate meaningful integration into the project design.

First, a project proponent looks for different ways a project can incorporate integration mechanisms into the design. Table 11.2 suggests thirteen types of integration.

Under this metric, the total integration factor is obtained as:

$$I_{TOTAL} = I_1 + I_2 + I_3 + I_4 + I_5 + I_6 + I_7 + I_8 + I_9 + I_{10} + I_{11} + I_{12} + I_{13}$$

## 11.5 Integration Planning

### Coefficient (C)

As discussed in Chapter 4, effective integration can best be realized if integration is formally addressed in the planning stages. How would the integration planning be performed? It may utilize a diverse team of experts drawing upon the planning, biological, ecological, social, engineering, computer science, economic and regulatory disciplines. Regardless of who does the planning, the key point is to include analysis of integration possibilities, along with recommendations for accomplishing watershed goals and achieving the Desired State or Vision.

Table 11.2 Integration Type Factors


Integration No.	Integration Type Description	Integration Factor (I)
I <sub>1</sub>	Project or actions tie into adjacent projects such that all projects work together to promote healthy local hydrologic function or effectively resolve significant water related conflicts.	1
I <sub>2</sub>	Project or actions are designed to significantly and effectively promote healthy downstream hydrologic function including projects that effectively resolve significant water related conflicts.	1
I <sub>3</sub>	A pilot project is implemented to serve as an example for a larger future project or program	1
I <sub>4</sub>	The project is designed such that it promotes effective implementation of future projects including projects that effectively resolve significant water related conflicts.	1
I <sub>5</sub>	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals to alleviate stress on our finite water resources.	1
I <sub>6</sub>	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals for green economic development goals.	1
I <sub>7</sub>	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals to foster full community participation in developing and implementing the Watershed Vision.	1
I <sub>8</sub>	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals to foster full community participation by disadvantaged communities in developing and implementing the Watershed Vision.	1
I <sub>9</sub>	Stakeholders enter into a Memorandum of Understanding to develop a particular project.	1
I <sub>10</sub>	Stakeholders enter into a collaborative advocacy agreement to find project funding	1
I <sub>11</sub>	Project is designed for low cost operations and maintenance.	1
I <sub>12</sub>	The project monitoring program is designed to fulfill the requirements of several local and regional projects	1
I <sub>13</sub>	The project explicitly ties in with projects in adjoining watersheds or sister watersheds.	1

**Table 11.3 Integration Planning Coefficient**

Integration Planning Level	Integration Planning Coefficient, [C]
Potential integration possibilities have been identified but no formal review or report has been prepared.	1
A survey or study has been prepared that formally identifies integration possibilities.	2
A study has been prepared detailing a work plan to explore how a list of prioritized integration possibilities can be realized. The coefficient is only applied to those integration types for which a work plan has been prepared.	4
An integration work plan has been completed that presents a detailed list of recommendations for integration.	8
An integration work plan has been completed that presents a detailed list of recommendations for integration along with an economic analysis.	12

As integration planning amplifies the integration process, let's define a coefficient "C" to quantify the amount of integration planning that has been incorporated into a project. Then the amplified integration factor is "C x I". The Integration Planning Coefficient for a particular project is quantified as follows.

## 11.6 Management Strategy Types

 Projects can be defined in terms of three management strategy categories:

### CATEGORY 1

Proactive planning, educational programs and low-cost projects

### CATEGORY 2

Source control and relatively low-cost projects

### CATEGORY 3

Treatment and repair projects

The long-term goal for a mature watershed program would be to have a program focused primarily on low-cost proactive projects, planning and education, such that expensive repair and mitigation projects are avoided. Examples of projects and programs that fall under these three types of management strategy categories are listed below.

#### Category 1

**PROACTIVE, LOW COST:** Projects that utilize this management strategy are generally low- cost projects, the most efficient way to maintain a healthy watershed over the long term. These types of projects include education and public outreach programs such as watershed-science class; promoting water conservation through use of water-thrifty, native plants; reducing toxic pollutant loads with Integrated Pest Management methods; reducing erosion by proper land use practices; irrigation audits; storm drain catch basin stenciling; and programs that promote proper disposal of pharmaceuticals and hazardous waste.

#### Category 2

**SOURCE CONTROL:** Projects that utilize this management strategy are generally lower cost projects that treat problems near the source and include street sweeping projects to pick up leaves, trash, oily



grit and copper brake pad dust; weather-based “smart” irrigation controllers; low impact development practices, habitat protection measures; illegal trail removals; catch basin screens; eliminating invasive plants that pose a fire hazard; dock pump-out upgrades; local fire-hazard reduction programs; smaller habitat linkage projects; and smaller-scale canyon stabilization projects

### Category 3

**TREATMENT AND REPAIR:** These projects tend to be urgently needed to address public health and safety or to address an imminent environmental hazard. Category 3 projects usually have large capital funding requirements, long permitting timelines and, often-times, complex design and construction requirements.

Because of the nature of Category 3 projects, this metric will tend to give these projects higher scores. These projects will likely put a heavy demand on available future funds. Since the long-term success of the water management plan will require wide-spread public support, it is also essential that smaller, community scale Category 1 and Category 2 projects also receive funding and move forward with the Category 3 projects. To this end, this water management plan proposes that each grant request include top ranked Category 1 and Category 2 projects.

## 11.7 Project Scores

Each project score is found using the following formula:

$$\text{PROJECT SCORE} = A + (C \times I)$$

As most projects are still only skeletally defined, each score should be considered provisional. In order to remove the provisional status of a project, project proponents will be required to provide a full description of each project and a work plan so that a proper re-evaluation of the score can be performed. Note that if the project does not have a high ranking, the work plan provides a path to increase the project score. An example is provided in Section 11.8.

A list of all the project scores and rankings is included in Appendix A. There are three additional corresponding lists showing the ranking of Category 1, Category 2 and Category 3 projects.

## 11.8 Scoring Example

As part of the planning for the Great Park, it has been proposed that Agua Chinon Creek be day-lighted. First, let’s examine Project Benefits. Using the Project Information Form for this project and Table 11.1, this project receives points for Habitat Connectivity (A3c=100), Habitat Restoration (A3d=30), Invasive Species Removal (A3a=10), NPS Load Reduction

(A4b=50+50percent=75) and Public Access (A9b=10), for a total Benefits score of 225.

Now consider the Integration Factors. Reading through Table 11.2, the following integration types apply to this project:

- I<sub>1</sub>:** The project ties into adjacent projects, such that all projects work together to promote healthy local hydrologic function or to effectively resolve significant water-related conflicts.
- I<sub>2</sub>:** The project is designed to significantly and effectively promote healthy downstream hydrologic function including projects that effectively resolve significant water related conflicts.
- I<sub>3</sub>:** A pilot project is implemented to serve as an example for a larger future project.
- I<sub>4</sub>:** The project is designed to promote effective implementation of future projects including projects that effectively resolve significant water-related conflicts.
- I<sub>7</sub>:** The project integrates an educational, planning or regulatory component that promotes long-term watershed goals to foster full community participation in developing and implementing the Watershed Vision.
- I<sub>9</sub>:** Stakeholders enter into a Memorandum of Understanding to develop a particular program
- I<sub>10</sub>:** Stakeholders enter into a collaborative advocacy agreement to find project funding
- I<sub>11</sub>:** Projects are designed for low cost operations and maintenance.

- I<sub>9</sub>:** The project explicitly ties in with projects in adjoining watersheds or sister watersheds.

The total of the integration factors is:

$$I_{TOTAL} = I_1 + I_2 + I_3 + I_4 + I_7 + I_9 + I_{10} + I_{11} + I_{13} = 9$$

Now let's consider the planning integration factor. Per the Project Information Form, we know the Agua Chinon Creek Restoration was planned in concert with the larger Great Park Master Plan, which includes "Green Streets", site infiltration, linkages between canyons, water features that include treatment, etc. The park includes amenities to allow the public to enjoy the restored areas. The residential and commercial areas are designed to work in tandem with the restored habitat areas. Funding requirements for the park have been analyzed and some funding agreements are already in place. Referring to Table 11.3, an Integration Planning coefficient of C=8 is assigned for this project. (Note that the integration planning done for the Great Park is the exception in our watershed. Almost all the projects that have been scored were assigned an Integration Planning coefficient of C=1.)

So that now that A, I and C have been determined, the project score is calculated as:

$$PROJECT\ SCORE = 235 + (8 \times 9) = 307.$$

## 11.9 Provisional Project Rankings

Appendix A shows the provisional project scores and rankings for over 130 projects, where it is noted that six larger Upper Newport Bay upland projects have been defined to consolidate over 20 smaller projects around the bay.

The top rated projects for which Project Information Forms were received are listed in Table 11.4. Except for the ET Controller project, all the top rated projects are Category 3 projects, which are higher cost, capital improvement projects.

**Table 11.4 Top Rated Projects with Project Information Forms**

Rank	Project Title
1	Upper Newport Bay Ecosystem Restoration (Dredging)
2	Buck Gully Restoration
3	Serrano Creek Reaches 2, 3, and 4
4	Peters Canyon Wash Improvements
5	Tollroad Foothills Fire Prevention
8	Agua Chinon Corridor Connector
9	San Joaquin NTS
11	Agua Chinon Inlet/Outlet and all Reaches (5)
15	West Bay Project Area
19	Rhine Channel Remediation Project (Phase 1)
24	Rawlings Reservoir Improvements
25	Michelson Water Reclamation Plant Flood Wall
26	Cienega Filtration Project
30	Newport Bay Copper Reduction Project
31	ET Controllers - Newport Beach
32	Irvine Wildlife Corridor

**Table 11.5 Top Rated Category 1 Projects**

Rank	Project Title
84	San Diego Creek Levee System FEMA Certification Study
94	Weather Indexing
	UC Cooperative Extension-Drought Tolerant Grass Research
	Buck Gully Resource Management Plan
106	Landscaping Auditing Program
107	California Friendly Landscaping Program
108	Landscape Certification Program
114	County-Wide Pharmaceutical No Drugs Down Drain
115	Study to Determine Priority Areas for the Removal of Exotic Animals
123	Bight 08 - Sediment Toxicity (Coastal Ecology)
125	AP Environmental Sciences Class
126	UC Cooperative Extension-Herbicide and Pesticide Research
127	San Diego Creek Watershed-Scale Pesticide Runoff Mitigation
128	Watershed Urban Forest Long Term Conversion Study
129	Bight 08 - Coastal Ecology
130	Watershed Training for Planning Engineers

**Table 11.6 Top Rated Water Supply Projects**

Rank	Project Title
23	Rawlings Reservoir Improvements
30	ET Controllers - Newport Beach
40	Baker Pipeline Regional Water Treatment Plant
41	District-Wide Recycled Water Expansion Project
42	Lake Forest Recycled Water Expansion Project
43	Siphon Reservoir Conversion
44	MCAS-Tustin Potable Wells

The top rated Category 1 projects, low cost, proactive planning projects, are listed in Table 11.5.

The top rated water supply projects for which Project Information Forms were received are listed in Table 11.6.

### *11.10 Scoring Revisions based on the Project Work Plan*

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Each project proponent develops a work plan that shows how the project can move forward towards implementation. As project planning proceeds and new project benefits are identified, new types of integration are incorporated into the plan, or as planning integration efforts are intensified, the project score will be updated accordingly.